PROGRESS

OF

MEDICAL SCIENCE

MEDICINE

UNDER THE CHARGE OF

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On the Causation of Parenchymatous Nephritis.—George W. Watson (*Brit. Med. Jour.*, 1912, i, 822) reports that beyond the association of acute nephritis with the acute fevers, little is known regarding its etiology. Our knowledge is even more vague in regard to the causation of chronic nephritis. To obtain some further insight into the etiology of renal inflammations, Watson has analyzed 100 cases of nephritis in the wards of the General Infirmary at Leeds, excluding cases of interstitial nephritis, or primary sclerotic kidney occurring beyond the middle period of life. Of this series, 80 were undoubted chronic kidneys of either the "large white," or "small white indurated" type. Watson has considered these together as chronic parenchymatous nephritis. It appears that the period of life in which the onset of symptoms is commonest is between twenty and thirty. Acute infections have little or nothing to do with the production of the disease. The effect of long continued sepsis is not clear. Several patients gave a history of uniform good health except for frequently recurring "sore throats." It is therefore not unlikely that absorption of products from organisms may occur without indication of infection. Chronic lead intoxication is well recognized as a potent factor. In only 3 of Watson's cases was it possibly significant. There is no evidence that alcohol was of importance. The only definite effect appeared to be the determination of symptoms in an already existing nephritis. Watson believes that none of the factors enumerated act more than as contributing causes, and that symptoms in an adult whether suggesting an acute or chronic nephritis indicate in the majority of cases a chronic renal change. Of the fundamental cause practically nothing is known. Watson has considered in this analysis as genuine acute nephritis, those cases in which albumin and casts disappeared permanently with the symptoms after a short time. There were 18 such with diagnosis confirmed in one. All but 2 occurred under thirty, bearing out the commonly accepted view of age incidence. There was no single convincing instance of primary acute nephritis arising from cold. Watson regards this rather as a factor producing the onset of symptoms in an already existing chronic disease, contributing by depressing the general health, and thus favoring the operation of the true cause. On the whole, Watson thinks that acute nephritis is not a common disease, and is usually due to the direct effect of some infection. The majority of cases recover completely. The diagnosis can seldom be made with certainty during the acute attack, and therefore prognosis cannot be safely given, until after at least a few weeks' interval.

On the Function of the Circle of Willis.—S. P. KRAMER (*Jour. Exper. Med.*, 1912, xv, 348) reports that in 1664 Dr. Thomas Willis published "Cerebri Anatome." Since then it has been generally believed that the circle of Willis was a kind of reservoir from which the different parts of the brain drew their blood supply. Kramer experimented with 50 live dogs and 3 monkeys in the following way. The animals were anesthetized and injected in a carotid or vertebral artery with a solution of methylene blue. The circulation was not interfered with. The animals were killed by opening the heart two minutes later. The brain and cord were removed and the distribution of dye noted. The results obtained by this method showed constant results. Kramer found that a carotid injection distributed methylene blue to the areas supplied by the anterior and middle cerebral, anterior choroid, and posterior communicating arteries on the same side. If a vertebral artery was injected with the others unobstructed, the stain went to the areas supplied by both vertebral arteries, the basilar, and both posterior cerebrals and their branches. If one vertebral artery was tied and the other injected, the staining was incomplete on the tied side. If one carotid was tied and the other injected, the parts were stained normally. But if both carotids or both vertebrals were tied, and one of the other vessels injected, the separation of areas disappeared and the stain was carried forward or backward as the case might be. In other words, the circle of Willis is an antero-posterior anastomosis between the carotid and vertebral vessels, which under physiological conditions does not permit the mingling of blood streams. When, however, either the anterior or posterior branches are completely blocked, the anastomosis will supply blood. These observations were controlled pharmacologically by injecting into the vertebral artery "bulbar poisons" which ought to produce on the centres in the medulla results which they would not cause if injected into the carotid. Alcohol, ether, and chloroform were used, both alone and in defibrinated blood from the same animal to rule out the possibility of emboli. Blood pressure and respiration were recorded. The results obtained entirely confirmed Kramer's previous observations.

Experimental Studies on the Administration of Salvarsan by Mouth to Animals and Man.—To determine the primary effects of salvarsan by mouth, JOHN A. KOLMER and JAY FRANK SCHAMBERG (*Jour. Exper.*